sigPOD APPLICATION GUIDE
LEAK MONITORING

sciemetric

352x Leak Module Configuration

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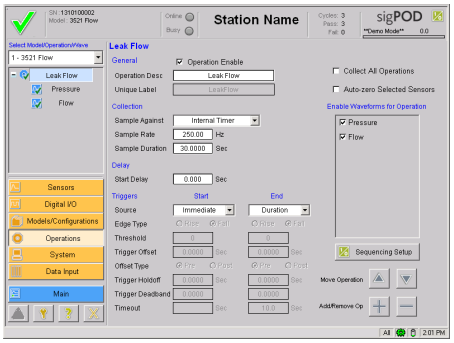
OVERVIEW

The **sigPOD 352x Leak Series Configuration** template is configured with recommended default settings to allow you to quickly begin testing with a Sciemetric 3520 or 3521 Leak Test Module. The configuration is intended as a starting point and may require modifications to meet your specific requirements.

SETUP

Each base test configuration is set up with a sampling rate of 250 Hz and duration of 30 seconds. These parameters should be tailored to each specific implementation to ensure the process is fully characterized. The settings will depend on the type of part and the particular test (e.g.: volume, pressure).



Installing the template

You can install the template using the **System Shell interface**. See the last page of this guide for complete installation instructions.

Requirements

The 352x Leak Series Configuration template is compatible with **version 4.1 of sigPOD PSV** or higher. It can be used on any sigPOD with at least one available analog channel for a 3520 Leak Test Module or two for a 3521 Module.

SENSORS

The application is configured to monitor pressure and flow. The assigned analog input channels are **00:Pressure** and **01:Flow**.

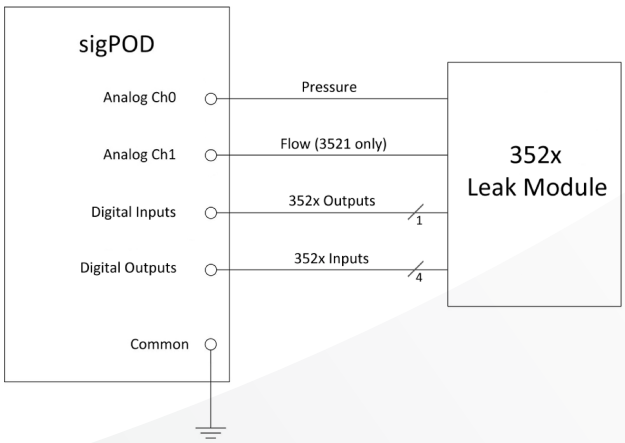
PRESSURE

Pressure (Analog Input 00) is measured by a pressure transducer within a 352x leak module.

FLOW

Flow (Analog Input 01) is measured by a flow sensor within a 3521 leak module.

SCHEMATIC DIAGRAM



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APPLICATION CONFIGURATION

The 352x Leak Series Configuration template comes configured with the following models: ***3520 PD, 3521 Flow, 3520 Self-Test, 3521 Self-Test*** and ***Clean Valves***. This document outlines the configuration for ***3521 Flow*** as it is most-used. For information about other models within the template, refer to the 352X Leak Test Module User Manual.

Model ***3521 Flow*** contains a single operation: Leak Flow. For information about adding operations, refer to the *sigPOD PSV User Guide*.

Within Leak Flow, the following waveforms and features are defined:

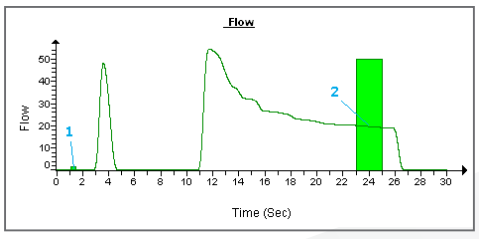
WAVEFORM DEFINITIONS

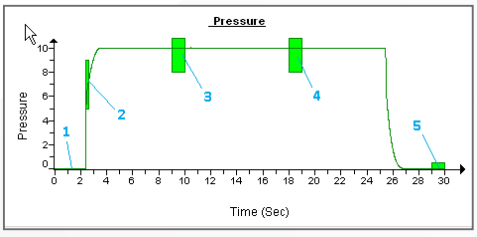
WAVEFORM	Y-INPUT	X-INPUT	WAVEFORM PROCESSING	DESCRIPTION
Pressure	**Pressure**	**Time**	_	The raw pressure signal.
Flow	**Flow**	**Time**	**Low Pass Filter**	Smooths out signal noise due to pressure or temperature fluctuations.

FEATURE DEFINITIONS

WAVEFORM	FEATURE NUMBER	FEATURE NAME	FEATURE TYPE	DESCRIPTION	EXAMPLES OF DEFECTS DETECTED
Pressure	1	**Pressure Zero**	**Mean**	Measure initial pressure.	Improperly-exhausted previous cycle, defective or improperly-calibrated pressure sensor.
	2	**Fill Check**	**Peak**	Measure pressure during fill cycle.	Incorrect or missing part, blocked port.
	3	**Fill Pressure**	**Mean**	Measure pressure immediately after part is filled.	Incorrect regulator pressure, insufficient supply, incorrect pressure sensor calibration or defective pressure sensor.
	4	**Test Pressure**	**Mean**	Measure pressure during test stage.	Leaking part or equipment, defective valve.
	5	**Exhaust Pressure**	**Mean**	Measure pressure after exhaust.	Defective valve or incorrect configuration.
Pressure	1	**Flow Zero**	**Mean**	Measure flow before filling part.	Defective or improperly-calibrated flow sensor, defective valve or incorrect configuration.
	2	**Flow Leak Rate**	**Mean**	Measure flow during test stage.	Leaking part or equipment.

WAVEFORMS





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Installing the template

You can install the template using the **System Shell interface**. Before you install the template:

- Ensure PSV version 4.1 or higher is already installed on the sigPOD.
- If the template is on a USB flash drive, ensure the flash drive is inserted in the USB port of the sigPOD.

To install the template, follow these short steps – please refer to the *sigPOD PSV User Guide* for more details.

1. On the ***System Shell*** toolbar, click ***Install*** to open the ***Install*** dialog box.
2. In the ***Type*** area, ensure ***Back Up*** is selected.
3. In the ***Install*** column, ***Component*** area, ensure the ***Calibration***, ***Configuration***, and ***Application Data*** check boxes are selected
4. Note: These check boxes are selected by default.
5. In the ***Install*** column, ***Component*** area, select the ***History Data*** check box.
6. From the ***Location*** drop-down list, select one of the following:
   - **X:\[Removable]** – if the template file is on a USB flash drive
   - **<Network Places>** – if the template file is on a network drive
7. Click the  button next to the ***Location*** drop-down list.
8. In the ***Open*** dialog box, navigate to the template file (.SBK) to be installed.
9. Select the template filename, and click ***Open***.
10. In the ***Install*** dialog box, click ***OK***.
11. To start the installed template, click ***Run*** on the ***System Shell*** toolbar.

For more information about installing application backup files, including template files, see the *InspeXion System Shell User Guide*. (To access, click ***Install*** on the ***System Shell*** toolbar, and then click ***Help*** in the ***Install*** dialog box).

About sigPOD Application Templates

sigPOD is a uniquely versatile platform that can be used for different applications across the production line. A sigPOD template serves as a starting point for configuration of the unit for a particular manufacturing test or monitoring requirement. Additional manual configuration will usually be required to fit to a test environment's specific circumstance. Please consult the sigPOD PSV user guide to learn more about how to configure the software. If you have suggestions on other templates or would like to share your own, contact us. If you require a customized application to meet your specific needs, our Manufacturing Intelligence Team can develop one for you. Request more information at inquiries@sciemetric.com.

www.sciemetric.com
inquiries@sciemetric.com
1-877-931-9200

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